

This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a minor, industrial permit. The discharge results from the production of potable water for the City of Fairfax and eastern Loudoun County. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq.

1. Facility Name and Mailing Address: Goose Creek Water Treatment Plant
10455 Armstrong Street
Fairfax, VA 22030
SIC Code: 4941 WTP
Facility Location: 20521 Belmont Ridge Road
Ashburn, VA 20147
County: Loudoun
Facility Contact Name: James Maddox / Superintendent
Telephone Number: 703-729-0300
2. Permit Number: VA0002666
Expiration Date: 8 August 2009
Other VPDES Permits: Not Applicable
Other Permits: PWSID 6600100 – public water
E2/E3/E4 Status: Not Applicable
3. Owner Name: City of Fairfax
Owner Contact/Title: Lauren Sufleta / Acting Director
Telephone Number: 703-385-7920
4. Application Complete Date: 6 February 2009
Permit Drafted By: Douglas Frasier
Date Drafted: 26 March 2009
Draft Permit Reviewed By: Alison Thompson
Date Reviewed: 3 April 2009
Public Comment Period: Start Date: 25 June 2009
End Date: 24 July 2009
5. Receiving Waters Information: See **Attachment 1** for the Flow Frequency Determination
Receiving Stream Name: Goose Creek, UT
Drainage Area at Outfall: 0.15 square miles
River Mile: 0.42
Stream Basin: Potomac River
Subbasin: Potomac River
Section: 9a
Stream Class: III
Special Standards: PWS
Waterbody ID: VAN-A08L
7Q10 Low Flow: 0.0 MGD
7Q10 High Flow: 0.0 MGD
1Q10 Low Flow: 0.0 MGD
1Q10 High Flow: 0.0 MGD
Harmonic Mean Flow: 0.0 MGD
30Q5 Flow: 0.0 MGD
303(d) Listed: No
30Q10 Flow: 0.0 MGD
TMDL Approved: Yes (downstream)
Date TMDL Approved: 26 April 2004
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<div style="margin-bottom: 5px;"><u>✓</u> State Water Control Law</div> <div style="margin-bottom: 5px;"><u>✓</u> Clean Water Act</div> <div style="margin-bottom: 5px;"><u>✓</u> VPDES Permit Regulation</div> <div style="margin-bottom: 5px;"><u>✓</u> EPA NPDES Regulation</div>	<div style="margin-bottom: 5px;"><u> </u> EPA Guidelines</div> <div style="margin-bottom: 5px;"><u>✓</u> Water Quality Standards</div> <div style="margin-bottom: 5px;"><u>✓</u> Other: 9 VAC 25-860-10 et seq.</div>
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7. Licensed Operator Requirements: Not Applicable
8. Reliability Class: Not Applicable

9. Permit Characterization:

<input type="checkbox"/> Private	<input checked="" type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input checked="" type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input checked="" type="checkbox"/> PWT	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

10. Wastewater Sources and Treatment Description:*Potable Water Production*

The City of Fairfax withdrawals water from two reservoirs (Goose Creek and Beaverdam Creek). Goose Creek is the primary source while Beaverdam Creek is the upstream reserve supply. The capacity of the Goose Creek reservoir is approximately 200 Million Gallons (MG) while the capacity of the Beaverdam Creek reservoir is 1300 MG. The Virginia Department of Health permitted production for the water treatment plant is 12 Million Gallons per Day (MGD).

Potassium permanganate is added to the raw water intake pump station as needed. Carbon is also injected into the raw water line. The water is pumped to a rapid mix unit where ferric sulfate and lime addition occur.

The water flows through flocculation and sedimentation basins. It then passes through six mixed media (sand and anthracite) filters. Chlorine is added to these filters to minimize bacteriological growth. Water is stored in two clearwells operated in series. The rectangular clearwell holds a volume of 1.0 MG and the circular clearwell holds a volume of 2.0 MG. Chlorine, sodium hexametaphosphate, lime, sodium hydroxide and sodium hydrofluorosilic acid are added prior to these clearwells.

Wastewater Sources and Treatment

Treatment of wastewater is via sedimentation and retention in a lagoon prior to discharge to an unnamed tributary of Goose Creek. Lagoon #1 consists of three cells separated by baffles and sluice gates. All wastewater enters Cell #1, the cell closest to the treatment plant. There are three ports of entry present in Cell #1. One accepts stormwater from the parking lot and roofs, one accepts backwash water and drains from the building and one accepts sedimentation basin discharge. Backwash from the filters is the primary source of discharge into Lagoon #1. The six filters are backwashed at a rate of 10 gpm/square foot. The sedimentation basins are drained twice per year to remove sludge. Each basin cleanout uses approximately 500,000 gallons of water.

Wastewater from Cell #1 enters Cell #2 through sluice gates. The sludge is allowed to settle in Cell #2. Any excess sludge is transported to Lagoon #2 by underground piping. Sludge may be pumped from either Cell #2 or Lagoon #2. The sludge is land applied in Maryland by Enviro-Organic Technologies.

Supernatant from Cell #2 flows through sluice gates to Cell #3 for further settling prior to discharge through Outfall 001 located in the southern portion of Cell #3. Dechlorination is currently accomplished through lagoon detention time, the addition of sodium metabisulfite during filter backwash and the cascade aeration prior to discharge. Sampling is conducted after aeration.

See **Attachment 2** for the NPDES Permit Rating Worksheet.

See **Attachment 3** for a facility schematic/diagram.

TABLE 1
OUTFALL DESCRIPTION

Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Wastewater from a water treatment plant.	See Item 10	0.51 MGD (average) 1.09 MGD (maximum)	39° 02' 58" N 77° 31' 09" W
See Attachment 4 for topographic map.				

11. Sludge Treatment and Disposal Methods:

The industrial sludge generated at this water treatment plant is land applied in the state of Maryland. A Solids Handling and Disposal Plan is included in the Operations and Maintenance (O&M) Manual for the facility.

12. Discharges, Intakes, Monitoring Stations & Other Items in Vicinity of Discharge:

TABLE 2 DISCHARGES, INTAKES & MONITORING STATION LOCATIONS		
Permit Number	Description	Latitude / Longitude
VAG840099	Luck Stone – Goose Creek Plant (Outfall 001)	39° 04' 55" / 77° 31' 10"
	Luck Stone – Goose Creek Plant (Outfall 002)	39° 04' 55" / 77° 31' 10"
	Goose Creek Country Club – Intake	
VAG840094	Luck Stone – Leesburg Plant (Outfall 001)	39° 03' 53" / 77° 31' 19"
	Luck Stone – Leesburg Plant (Outfall 002)	39° 04' 13" / 77° 31' 00"
	Luck Stone – Leesburg Plant (Outfall 003)	39° 47' 36" / 77° 29' 52"
1aGOO002.38	DEQ Ambient Monitoring Station	39° 05' 08" / 77° 30' 41"
VA0002666	Goose Creek WTP Industrial Discharger	39° 02' 58" / 77° 31' 21"
	Goose Creek WTP Intake/Impoundment	
VA0080933	Goose Creek Industrial Park WWTP	39° 04' 21" / 77° 31' 09"
1aSYC002.03	DEQ Ambient Monitoring Station	39° 03' 43" / 77° 32' 30"
VAG406015	Lanier Residence	Single Family Home Domestic Discharges
VAG406101	Smith Residence	
VAG406121	Krumwiede Residence	

13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Storage Areas / Spill Prevention Measures
Chlorine gas	12 tons	4 1-ton cylinders in the chlorine room; remainder on loading dock.
Ferric Sulfate	20,000 gallons	Two (2) 10,000 gallon reinforced fiberglass tanks.
Lime	20 tons	Stored in dry form on pallets.
Carbon	4 tons	
Sodium Hydroxide	6 tons	Stored in liquid form in 55-gallon drums.
Potassium Permanganate	1 ton	Stored in dry form in 110 lb. drums.
Sodium Metabisulfite	1 ton	Stored in dry form on pallets.
Sodium Hexametaphosphate	2 tons	
Sodium Hydrofluorosilic Acid	5,000 gallons	Stored in 5,000 gallon reinforced fiberglass tank.

14. Site Inspection: Performed by NRO staff on 17 October 2006 (see **Attachment 5**).

15. Receiving Stream Water Quality and Water Quality Standards:**a. Ambient Water Quality Data**

There is no ambient monitoring data available for the receiving stream. The nearest DEQ monitoring station is 1aGOO002.38, located on Goose Creek at the Route 7 bridge crossing; approximately 3.3 miles downstream from Outfall 001.

The following describes the water quality assessment results and listed downstream impairments for Goose Creek:

Recreational Use Impairment

Sufficient excursions from the instantaneous *E. coli* bacteria criterion were recorded at DEQ's ambient water quality monitoring station 1aGOO002.38 at the Route 7 crossing.

Aquatic Life Use Impairment

Goose Creek and Little River are classified as slightly impaired due to excess sediment loads. Sources of sediment in Goose Creek are stream bank erosion, erosion from pasture and erosion from crops and construction sites.

Fish Consumption Impairment

The fish consumption use is categorized as impaired due to PCBs presence in fish tissue. The Virginia Department of Health has issued a fish consumption advisory.

The receiving stream was not specifically included in the bacteria TMDL, but all upstream facilities were considered. A fecal coliform TMDL for the Goose Creek watershed was developed and approved by the U.S. EPA on 1 May 2003 with a modification approval on 30 October 2006. This facility was not given a Wasteload Allocation for bacteria since it is not expected to discharge the pollutant of concern.

The benthic TMDL for Goose Creek also did not specifically include the receiving stream, but did take into account all upstream point sources. A benthic TMDL for the Goose Creek watershed was approved by the U.S. EPA on 26 April 2004. This facility was given a Wasteload Allocation of 57.9 tons of sediment/year.

The TMDL to address the Fish Consumption impairments is scheduled to be completed in 2018.

b. Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream Goose Creek, UT, is located within Section 9a of the Potomac River Basin and classified as Class III water.

At all times, Class III waters must achieve dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C and maintain a pH of 6.0– 9.0 standard units (S.U.).

Attachment 6 details other water quality criteria applicable to the receiving stream.

c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Goose Creek, UT, is located within Section 9a of the Potomac River Basin. This section has been designated with a special standard of 'PWS'.

Special Standard 'PWS' designates a public water supply intake. The Board's Water Quality Standards establish numerical standards for specific parameters calculated to protect human health from toxic effects through drinking water and fish consumption. See 9 VAC 25-260-140 B for applicable criteria.

d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Wood Turtle, Upland Sandpiper (song bird), Henslow's Sparrow (song bird), Bald Eagle, Green Floater (mussel) and Migrant Loggerhead Shrike (song bird). The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore protect the threatened and endangered species found near the discharge.

16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on the critical flow frequencies. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA's) are calculated. In this case, since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the permit application and the 2004 – 2008 Discharge Monitoring Reports (DMR) has been reviewed and determined to be suitable for evaluation. There was only one reported pH exceedance.

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:

WLA	=	Wasteload allocation
C _o	=	In-stream water quality criteria
Q _e	=	Design flow
Q _s	=	Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
f	=	Decimal fraction of critical flow
C _s	=	Mean background concentration of parameter in the receiving stream

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c. Effluent Limitations, Outfall 001 – Toxic Pollutants

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

Total Residual Chlorine:

Chlorine is used in the production process and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows and the mixing allowance. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. The calculated limitations are a monthly average and a daily maximum of 0.016 mg/L (see **Attachment 7**).

However, the general permit for water treatment plants, 9 VAC 25-860, has set a monthly average and daily maximum of 0.011 mg/L for TRC. Since these limitations are more stringent, TRC limitations of 0.011 mg/L as a monthly average and daily maximum are proposed for this reissuance.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to Total Suspended Solids (TSS) and pH limitations are proposed.

pH limitations are set at the water quality criteria.

e. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following table. Limits were established for Total Suspended Solids, pH and Total Residual Chlorine.

The limit for Total Suspended Solids is based on 9 VAC 25-860-10 et seq.

Sample Type and Frequency are in accordance with 9 VAC 25-860-10 et seq.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Maximum Design flow is 1.09 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	N/A	N/A	NL	Continuous	TIRE
pH	2	N/A	N/A	6.0 S.U.	9.0 S.U.	1/M	Grab
Total Suspended Solids (TSS)	3	30 mg/L	N/A	N/A	60 mg/L	1/M	5G/8HC
Total Residual Chlorine	2,3	0.011 mg/L	N/A	N/A	0.011 mg/L	1/M	Grab
Acute Toxicity – <i>C. dubia</i> (TU _a)		N/A	N/A	N/A	NL	1/Y	5G/8HC
Acute Toxicity – <i>P. promelas</i> (TU _a)		N/A	N/A	N/A	NL	1/Y	5G/8HC

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Water Quality Standards
3. 9 VAC 25-860 (VPDES General Permit for Potable Water Treatment Plants)

MGD = Million gallons per day.*N/A* = Not applicable.*NL* = No limit; monitor and report.*TIRE* = Totalizing, indicating and recording equipment.*1/M* = Once every month.*1/Y* = Once every year.

5G/8H-C = 5 Grab/Eight Hour Composite - Consisting of five (5) grab samples collected at hourly intervals until the discharge ceases or five (5) grab samples taken at equal time intervals for the duration of the discharge if the discharge is less than eight (8) hours in length.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

20. Other Permit Requirements:

- a. Part I.B. of the permit contains quantification levels and compliance reporting instructions.

9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

- b. Permit Section Part I.C., details the requirements for Toxics Management Program

The VPDES Permit Regulation at 9 VAC 25-31-210 requires monitoring and 9 VAC 25-31-220.I, requires limitations in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. A TMP is imposed for municipal facilities with a design rate > 1.0 MGD, with an approved pretreatment program or required to develop a pretreatment program or those determined by the Board based on effluent variability, compliance history, IWC and receiving stream characteristics.

The Goose Creek Water Treatment Plant is an industrial discharger with an effluent that may be potentially toxic. The current permit was initially issued on 9 August 1999. At that time, the facility was required to conduct quarterly acute and chronic tests for one year with a reduction to annually. See **Attachment 8** for the most recent review of the bioassays for Outfall 001.

Since the discharge is considered intermittent, annual acute testing was required during the last permit term. It is proposed that acute testing be continued using *C. dubia* and *P. promelas* as the test species.

21. Other Special Conditions:

- a. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. Before or on 9 November 2009, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- b. Solids Handling and Disposal Plan. The Solids Handling and Disposal Plan was submitted and approved by DEQ-NRO on 10 May 2005 and was incorporated into the O&M Manual. Future changes shall be addressed by the submittal of a revised Plan within 90 days of the changes. Non-compliance with the Solids Handling and Disposal Plan shall be deemed a violation of the permit.
- c. Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:
- (1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (a) One hundred micrograms per liter;
 - (b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
 - (c) Five times the maximum concentration value reported for that pollutant in the permit application; or
 - (d) The level established by the Board.
 - (2) That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (a) Five hundred micrograms per liter;
 - (b) One milligram per liter for antimony;
 - (c) Ten times the maximum concentration value reported for that pollutant in the permit application; or
 - (d) The level established by the Board.
- d. Materials Handling/Storage. 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

- e. Copper and Sulfate Monitoring. The effluent shall be monitored for total recoverable copper and sulfate each day copper sulfate is added to the reservoir. Results shall be submitted with the Discharge Monitoring Report.
 - f. Minimum Freeboard. The permittee shall maintain a minimum freeboard of one (1) foot in the wastewater storage pond except during the occurrence of a 25-year, 24-hour storm event. Should the one-foot freeboard requirement be violated, the permittee shall immediately notify DEQ-NRO describing measures taken to correct the problem. Within five (5) days of the notification, the permittee shall submit a written explanation statement and corrective measures.
 - g. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.
22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

- a. Special Conditions:
 - The Metering of Effluent special condition was removed with this reissuance since it was completed during the last permit term.
- b. Monitoring and Effluent Limitations:
 - The Total Residual Chlorine limitations were reduced to 0.011 mg/L for both the monthly average and maximum per 9 VAC 25-860-10 et seq.

24. Variances/Alternate Limits or Conditions: None

25. Public Notice Information:

First Public Notice Date: 24 June 2009 Second Public Notice Date: 1 July 2009

Public Notice Information is required by 9 VAC 25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193; Telephone No. (703) 583-3873; Douglas.Frasier@deq.virginia.gov. See **Attachment 9** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

A benthic TMDL for the Goose Creek watershed was approved by the U.S. EPA on 26 April 2004. The receiving stream was not specially mentioned in the TMDL; although all upstream point source dischargers were accounted. This facility was given a Wasteload Allocation (WLA) of 57.9 tons of sediment/year. The limitations, as set forth, should not contribute to the further downstream impairment and are in compliance with the stated TMDL WLA.

27. Additional Comments:

Previous Board Action(s): None.
Staff Comments: None.
Public Comment: No comments were received during the public notice.
EPA Checklist: The checklist can be found in **Attachment 10**.

Fact Sheet Attachments

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Goose Creek Water Treatment Plant
VA0002666
2009 Reissuance

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Attachment 5	Inspection Report
Attachment 6	Water Quality Criteria
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MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Water Quality Assessments
629 East Main Street P.O. Box 10009 Richmond, Virginia 23219

SUBJECT: Flow Frequency Determination
Goose Creek WTP - #VA0002666

TO: Tom Faba, NRO
FROM: Paul E. Herman, P.E., WQAP

DATE: January 29, 1999

COPIES: Ron Gregory, Charles Martin, File

RECEIVED
FEB 2 1999

Northern VA. Region
Dept. of Env. Quality

The Goose Creek WTP discharges to an unnamed tributary of the Goose Creek near Leesburg, Virginia. Flow frequencies are required at this site for use by the permit writer in developing the VPDES permit.

The flow frequencies for the discharge receiving stream were determined by inspection of the USGS Leesburg Quadrangle topographic map. The map depicts the receiving stream as a dry ravine. The flow frequencies for dry ravines are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean.

The receiving stream drains to waters impounded by Goose Creek Dam. The flow frequencies for the impounded waters were outlined in a memo to Lyle Ann Collier dated March 3, 1994. Please continue to use those flow values during this permit development process.

If you have any questions concerning this analysis, please let me know.

NPDES PERMIT RATING WORK SHEETVPDES NO. : VA0002666

- ☒ Regular Addition
☐ Discretionary Addition
☐ Score change, but no status Change
☐ Deletion

Facility Name: Goose Creek Water Treatment PlantCity / County: LoudounReceiving Water: Goose Creek, UT

Reach Number: _____

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)

2. A nuclear power Plant

3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

☐ YES; score is 700 (stop here)☒ NO; (continue)☐ Yes; score is 600 (stop here) ☒ NO; (continue)**FACTOR 1: Toxic Pollutant Potential**PCS SIC Code: _____ Primary Sic Code: 4941 Other Sic Codes: _____Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input checked="" type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: 7**Total Points Factor 1:** 35**FACTOR 2: Flow/Stream Flow Volume**

(Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)	Code	Points
Type I: Flow < 5 MGD	<input type="checkbox"/> 11	0
Flow 5 to 10 MGD	<input type="checkbox"/> 12	10
Flow > 10 to 50 MGD	<input type="checkbox"/> 13	20
Flow > 50 MGD	<input type="checkbox"/> 14	30
Type II: Flow < 1 MGD	<input checked="" type="checkbox"/> 21	10
Flow 1 to 5 MGD	<input type="checkbox"/> 22	20
Flow > 5 to 10 MGD	<input type="checkbox"/> 23	30
Flow > 10 MGD	<input type="checkbox"/> 24	50
Type III: Flow < 1 MGD	<input type="checkbox"/> 31	0
Flow 1 to 5 MGD	<input type="checkbox"/> 32	10
Flow > 5 to 10 MGD	<input type="checkbox"/> 33	20
Flow > 10 MGD	<input type="checkbox"/> 34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
Type I/III:	< 10 %	<input type="checkbox"/> 41	0
	10 % to < 50 %	<input type="checkbox"/> 42	10
	> 50%	<input type="checkbox"/> 43	20
Type II:	< 10 %	<input type="checkbox"/> 51	0
	10 % to < 50 %	<input type="checkbox"/> 52	20
	> 50 %	<input type="checkbox"/> 53	30

Code Checked from Section A or B: 21**Total Points Factor 2:** 10

NPDES PERMIT RATING WORK SHEET**FACTOR 3: Conventional Pollutants**

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)

	Code	Points
<input type="checkbox"/> < 100 lbs/day	1	0
<input type="checkbox"/> 100 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 3000 lbs/day	3	15
<input type="checkbox"/> > 3000 lbs/day	4	20

Code Number Checked:

N/A

Points Scored:**0**

B. Total Suspended Solids (TSS)

Permit Limits: (check one)

	Code	Points
<input type="checkbox"/> < 100 lbs/day	1	0
<input checked="" type="checkbox"/> 100 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 5000 lbs/day	3	15
<input type="checkbox"/> > 5000 lbs/day	4	20

Code Number Checked:

2

Points Scored:**5**

C. Nitrogen Pollutants: (check one)

☐ Ammonia ☐ Other: _____

Permit Limits: (check one)

	Code	Points
<input type="checkbox"/> Nitrogen Equivalent < 300 lbs/day	1	0
<input type="checkbox"/> 300 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 3000 lbs/day	3	15
<input type="checkbox"/> > 3000 lbs/day	4	20

Code Number Checked:

NA

Points Scored:**0****Total Points Factor 3:****5****FACTOR 4: Public Health Impact**

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☒ YES; (If yes, check toxicity potential number below)☐ NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1.
(Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input checked="" type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked:

7

Total Points Factor 4:**15**

NPDES PERMIT RATING WORK SHEET**FACTOR 5: Water Quality Factors**

- A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines or technology-based state effluent guidelines) or has a wasteload allocation been given to the discharge?

	Code	Points
<input checked="" type="checkbox"/> YES	1	10
<input type="checkbox"/> NO	2	0

- B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
<input checked="" type="checkbox"/> YES	1	0
<input type="checkbox"/> NO	2	5

- C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
<input type="checkbox"/> YES	1	10
<input checked="" type="checkbox"/> NO	2	0

Code Number Checked: A 1 B 1 C 2
Points Factor 5: A 10 + B 0 + C 0 = 10

FACTOR 6: Proximity to Near Coastal Waters

- A. Base Score: Enter flow code here (from factor 2) 22

Check appropriate facility HPRI code (from PCS):

Enter the multiplication factor that corresponds to the flow code: 0.3

HPRI#	Code	HPRI Score	Flow Code	Multiplication Factor
<input type="checkbox"/> 1	1	20	11, 31, or 41	0.00
<input type="checkbox"/> 2	2	0	12, 32, or 42	0.05
<input type="checkbox"/> 3	3	30	13, 33, or 43	0.10
<input type="checkbox"/> 4	4	0	14 or 34	0.15
<input checked="" type="checkbox"/> 5	5	20	21 or 51	0.10
			22 or 52	0.30
			23 or 53	0.60
			24	1.00

HPRI code checked : 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.3 = 0

- B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

Code	Points
<input type="checkbox"/> 1	10
<input type="checkbox"/> 2	0

- C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)?

Code	Points
<input type="checkbox"/> 1	10
<input type="checkbox"/> 2	0

Code Number Checked: A 4 B N/A C N/A
Points Factor 6: A 0 + B 0 + C 0 = 0

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

<u>Factor</u>	<u>Description</u>	<u>Total Points</u>
1	Toxic Pollutant Potential	35
2	Flows / Streamflow Volume	10
3	Conventional Pollutants	5
4	Public Health Impacts	15
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	75

S1. Is the total score equal to or greater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☐ NO

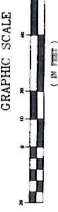
☐ YES; (Add 500 points to the above score and provide reason below:

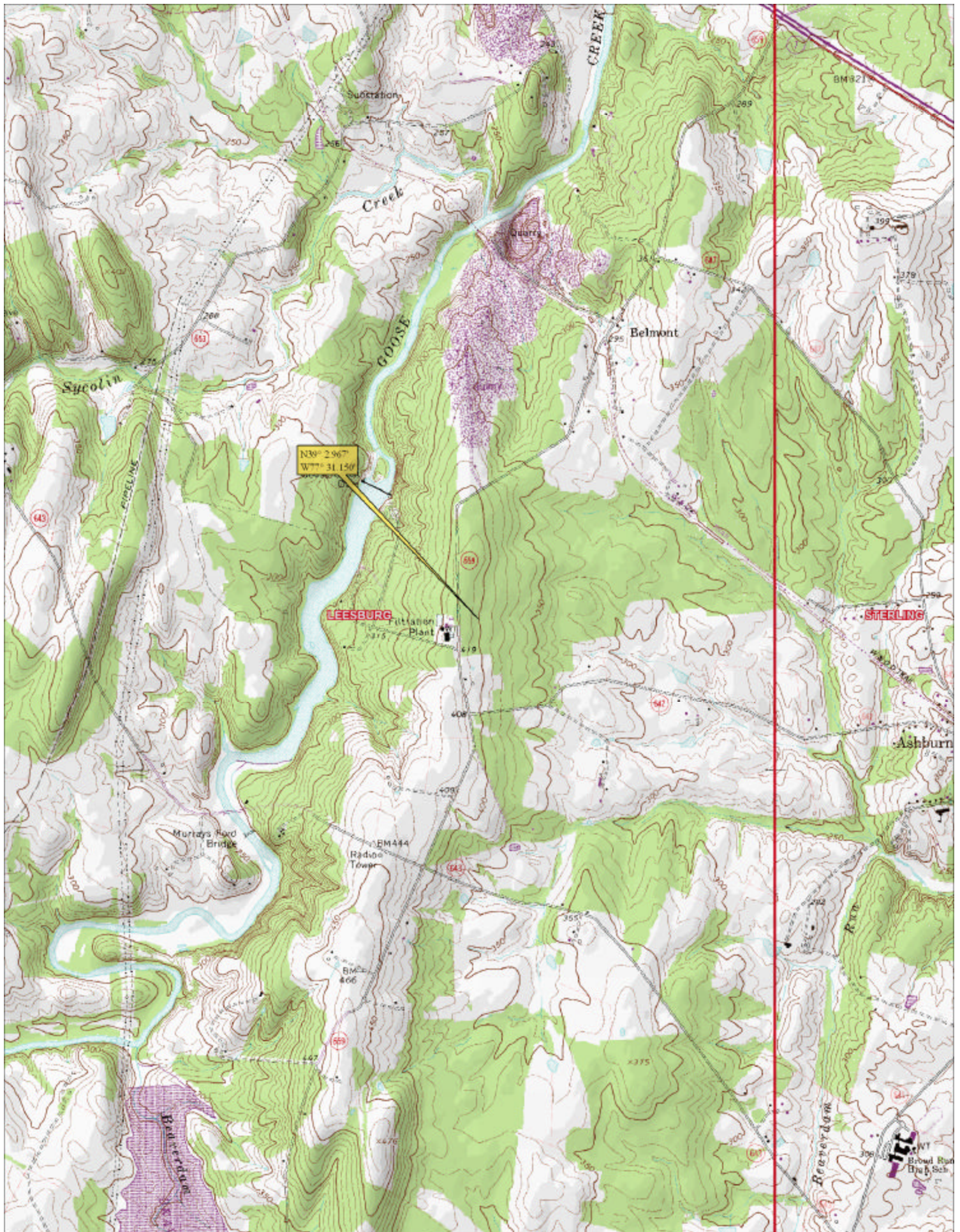
Reason: _____

NEW SCORE : 75

OLD SCORE : 75

Permit Reviewer's Name : Douglas Frasier
Phone Number: 703-583-3873
Date: 16 March 2009





November 6, 2006

John Boryschuk
Director of Utilities
10455 Armstrong Street
Fairfax, VA 22030

Re: Goose Creek Water Treatment Plant, Permit VA0002666

Dear Mr. Boryschuk:

Enclosed are copies of the technical and laboratory inspection reports generated from observations made while performing a Facility Technical Inspection at the Goose Creek - Water Treatment Plant (WTP) on October 17, 2006. The compliance/monitoring staff would like to thank Jim Maddox and John Bartyczak for their time and assistance during the inspection.

Summaries for both the technical and laboratory inspections are enclosed. The facility had Deficiencies for the laboratory inspection. Please note the requirements and recommendations addressed in the technical summary. Please submit in writing a progress report to this office by **December 6, 2006** for the items addressed in the summary.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Virginia Regional Office at (703) 583-3882 or by E-mail at smmack@deq.virginia.gov.

Sincerely,

Sharon Mack
Environmental Specialist II

cc: Permits / DMR File, Compliance Manager
Compliance Auditor, Compliance Inspector
OWCP – Steve Stell
Jim Maddox - Goose Creek WTP

DEQ
WASTEWATER FACILITY INSPECTION REPORT
PREFACE

VPDES/State Certification No.	(RE) Issuance Date	Amendment Date	Expiration Date
VA0002666	Aug. 9, 2004		Aug. 8, 2009
Facility Name	Address		Telephone Number
Goose Creek WTP	20521 Belmont Ridge Road, Ashburn, VA 20147		703-729-0300
Owner Name	Address		Telephone Number
City of Fairfax	10455 Armstrong Street Fairfax, VA 22030		703-385-7816
Responsible Official	Title		Telephone Number
John Boryschuck	Director of Utilities		703-385-7816
Responsible Operator	Operator Cert. Class/number		Telephone Number
Jim Maddox	Class III; 1911003744		703-729-0300
TYPE OF FACILITY:			
DOMESTIC		INDUSTRIAL	
Federal		Major	
Non-federal		Minor	
		Major	
		Minor	
		Primary	
		Secondary	
INFLUENT CHARACTERISTICS:		DESIGN:	
	Flow	NA	
	Population Served	NA	
	Connections Served	3	
EFFLUENT LIMITS: SPECIFY UNITS			
Parameter	Min.	Avg.	Max.
Flow		NL	
TRC		0.019	0.019
Acute Toxicity		NA	NL
	Receiving Stream	Goose Creek, UT	
	Basin	Potomac River	
	Discharge Point (LAT)	39° 02' 57"	
	Discharge Point (LONG)	77° 31' 9"	

**DEQ
WASTEWATER FACILITY
INSPECTION REPORT
PART 1**

Inspection date: **October 17, 2006** Date form completed: **November 6, 2006**
 Inspection by: **Sharon Mack** Inspection agency: **DEQ NRO**
 Time spent: **30 hrs** Announced: **No**
 Reviewed by: Scheduled: **Yes**
 Present at inspection: **Jim Maddox – Goose Creek WTP**

TYPE OF FACILITY:

Domestic**Industrial**

☐ Federal ☐ Major
☐ Nonfederal ☐ Minor

☐ Major ☐ Primary
☒ Minor ☒ Secondary

Type of inspection:

☒ Routine
☐ Compliance/Assistance/Complaint
☐ Reinspection

Date of last inspection: **Jan. 25, 1999**
 Agency: **DEQ NRO**

Population served: **NA**

Last month average: (Effluent) September 2006:

Flow:	0.377	MGD	pH:	7.0	s.u.	TSS	5.2	mg/L
TRC:	<QL	mg/L						

Quarter average: (Effluent)

Flow:	0.377	MGD	pH:	6.8	s.u.	TSS	5.2	mg/L
TRC:	< QL	mg/L						

DATA VERIFIED IN PREFACE

☐ Updated☒ No changes

Has there been any new construction?

☒ Yes☐ No

If yes, were plans and specifications approved?

☒ Yes☐ No☐ NA

DEQ approval date: **Lagoon - October 20, 2000**
Effluent Flow Meter – May 10, 2005

(A) PLANT OPERATION AND MAINTENANCE

1. Class and number of licensed operators: I ____ II ____ III 1 IV ____ Trainee **See comments**
2. Hours per day plant is manned: **24 hours per day**
3. Describe adequacy of staffing. ☒ Good ☐ Average ☐ Poor
4. Does the plant have an established program for training personnel? ☒ Yes ☐ No
5. Describe the adequacy of the training program. ☐ Good ☒ Average ☐ Poor
6. Are preventive maintenance tasks scheduled? ☒ Yes ☐ No
7. Describe the adequacy of maintenance. ☒ Good ☐ Average ☐ Poor*
8. Does the plant experience any organic/hydraulic overloading?
If yes, identify cause and impact on plant: ☐ Yes ☒ No
9. Any bypassing since last inspection? ☐ Yes ☒ No
10. Is the standby electric generator operational? ☐ Yes ☐ No* ☒ NA
11. Is the STP alarm system operational? ☐ Yes ☐ No* ☒ NA
12. How often is the standby generator exercised? **NA**
Power Transfer Switch? **NA**
Alarm System? **NA**
13. When was the cross connection control device last tested on the potable water service? **May 2, 2006**
14. Is sludge being disposed in accordance with the approved sludge disposal plan?
☒ Yes ☐ No ☐ NA
15. Is septage received by the facility? ☐ Yes ☒ No
Is septage loading controlled? ☐ Yes ☒ No
Are records maintained? ☐ Yes ☒ No
16. Overall appearance of facility: ☒ Good ☐ Average ☐ Poor

Comments:

- 1. Plant staff includes eight licensed waterworks operators and one licensed wastewater operator (class III).**
- 6. The waste water treatment process consists of a settling lagoon for backwash water from the filters. Maintenance involves grounds maintenance and examining the gates between cells when cells are drained down for solids removal**
- 10. The water plant has dual feeds from the electric plant to satisfy back-up power requirements.**
- 13. The plant has 2 surge release valves and 2 backflow preventors, all certified in May.**

(B) PLANT RECORDS

1. Which of the following records does the plant maintain?

Operational Logs for each unit process	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Instrument maintenance and calibration	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Mechanical equipment maintenance	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Industrial waste contribution (Municipal Facilities)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> NA

2. What does the operational log contain?

<input checked="" type="checkbox"/> Visual observations	<input checked="" type="checkbox"/> Flow measurement
<input checked="" type="checkbox"/> Laboratory results	<input checked="" type="checkbox"/> Process adjustments
<input type="checkbox"/> Control calculations	<input type="checkbox"/> Other (specify)

Comments:

3. What do the mechanical equipment records contain?

<input checked="" type="checkbox"/> As built plans and specs	<input type="checkbox"/> Spare parts inventory
<input type="checkbox"/> Manufacturers instructions	<input type="checkbox"/> Equipment/parts suppliers
<input type="checkbox"/> Lubrication schedules	<input type="checkbox"/> Other (specify)

Comments:

4. What do the industrial waste contribution records contain? **NA**
(Municipal Only)

<input type="checkbox"/> Waste characteristics	<input type="checkbox"/> Locations and discharge types
<input type="checkbox"/> Impact on plant	<input type="checkbox"/> Other (specify)

Comments:

5. Which of the following records are kept at the plant and available to personnel?

<input checked="" type="checkbox"/> Equipment maintenance records	<input checked="" type="checkbox"/> Operational Log
<input type="checkbox"/> Industrial contributor records	<input checked="" type="checkbox"/> Instrumentation records
<input checked="" type="checkbox"/> Sampling and testing records	

6. Records not normally available to plant personnel and their location: **None**

7. Were the records reviewed during the inspection? ☒ Yes ☐ No

8. Are the records adequate and the O & M Manual current? ☒ Yes ☐ No

9. Are the records maintained for the required 3-year time period? ☒ Yes ☐ No

Comments:

(C) SAMPLING

1. Do sampling locations appear to be capable of providing representative samples? ☒ Yes ☐ No*
2. Do sample types correspond to those required by the VPDES permit? ☒ Yes ☐ No*
3. Do sampling frequencies correspond to those required by the VPDES permit? ☒ Yes ☐ No*
4. Are composite samples collected in proportion to flow? ☒ Yes ☐ No* ☐ NA
5. Are composite samples refrigerated during collection? ☒ Yes ☐ No* ☐ NA
6. Does plant maintain required records of sampling? ☒ Yes ☐ No*
7. Does plant run operational control tests? ☐ Yes ☒ No

Comments:

(D) TESTING

1. Who performs the testing? ☒ Plant ☐ Central Lab ☒ Commercial Lab

pH, CL2
TSS **Toxicology**

Name: **Coastal Bioanalysts, Gloucester, VA****If plant performs any testing, complete 2-4.**

2. What method is used for chlorine analysis? **Hach Spectrometer, pocket colorimeter**
3. Does plant appear to have sufficient equipment to perform required tests? ☒ Yes ☐ No*
4. Does testing equipment appear to be clean and/or operable? ☒ Yes ☐ No*

Comments:

(E) FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1. Is the production process as described in the permit application? (If no, describe changes in comments)
☐ Yes ☐ No ☒ NA
2. Do products and production rates correspond as provided in the permit application? (If no, list differences)
☐ Yes ☐ No ☒ NA
3. Has the State been notified of the changes and their impact on plant effluent? Date:
☐ Yes ☐ No* ☒ NA

Comments:

Problems identified at last inspection: January 1999

	Corrected	Not Corrected
1. ATC on the pH meter had not been checked annually against an NIST traceable thermometer.	[X]	[]
2. The analytical balance was due for annual servicing.	[X]	[]
3. The annual TSS filter drying time verification had not been documented.	[X]	[]

TECHNICAL SUMMARY

Comments:

The facility is well maintained and operated.

UNIT PROCESS: Ponds/Lagoons

1. Type: ☐ Aerated ☒ Unaerated ☐ Polishing
2. No. of cells: **3** In operation: **2**
3. Color: ☐ Green ☒ Brown ☐ Light Brown ☐ Grey ☐ Other:
4. Odor: ☐ Septic* ☐ Earthy ☒ None ☐ Other:
5. System operated in: ☐ Series ☐ Parallel ☒ NA
6. If aerated, are lagoon contents mixed adequately? ☐ Yes ☐ No* ☒ NA
7. If aerated, is aeration system operating properly? ☐ Yes ☐ No* ☒ NA
8. Evidence of following problems:
- a. vegetation in lagoon or dikes ☒ Yes* ☐ No
 - b. rodents burrowing on dikes ☐ Yes* ☒ No
 - c. erosion ☐ Yes* ☒ No
 - d. sludge bars ☒ Yes* ☐ No
 - e. excessive foam ☐ Yes* ☒ No
 - f. floating material ☐ Yes* ☒ No
9. Fencing intact: ☒ Yes ☐ No*
10. Grass maintained properly: ☒ Yes ☐ No
11. Level control valves working properly: ☒ Yes ☐ No*
12. Effluent discharge elevation: ☒ Top ☐ Middle ☐ Bottom
13. Freeboard: **~ 5 ft. (water level in lagoon was at 2 ft.)**
14. Appearance of effluent: ☐ Good ☐ Fair ☐ Poor **See comments**
15. General condition: ☒ Good ☐ Fair ☐ Poor
16. Are monitoring wells present? ☐ Yes ☒ No
- Are wells adequately protected from runoff? ☐ Yes ☐ No* ☒ NA
- Are caps on and secured? ☐ Yes ☐ No* ☒ NA

Comments:

3. Inspection occurred on stormy day – the water was very stirred up and turbid.**8. The pond is a solids settling pond, and “s ludge bars” are an expected result of the treatment process. Solids are removed twice yearly from each cell by Enviro Organic Technologies and land applied.****14. The effluent was somewhat turbid due to the effects of the rainstorm.**

UNIT PROCESS: Post Aeration

1. Number of units: **1** In operation: **1** **Step aeration**
2. Proper flow distribution between units: ☐ Yes ☐ No* **[X] NA**
3. Evidence of following problems:
- | | | | |
|---------------------------------|-------------------------------|-----------------------------|---------------|
| a. dead spots | <input type="checkbox"/> Yes* | [X] No | |
| b. excessive foam | <input type="checkbox"/> Yes* | [X] No | |
| c. poor aeration | <input type="checkbox"/> Yes* | [X] No | |
| d. mechanical equipment failure | <input type="checkbox"/> Yes* | <input type="checkbox"/> No | [X] NA |
4. How is the aerator controlled? ☐ Time clock ☐ Manual **[X]** Continuous ☐ Other* ☐ NA
5. What is the current operating schedule? **Continuous**
6. Step weirs level: **[X]** Yes ☐ No ☐ NA
7. Effluent D.O. level: **9.95 mg/L @ 13 ° C measured at 1315 by S. Mack**
8. General condition: **[X]** Good ☐ Fair ☐ Poor

Comments:

UNIT PROCESS: Flow Measurement☐ Influent ☐ Intermediate **[X]** Effluent

1. Type measuring device: **Delta Open Channel Flow Meter**
2. Present reading: **0.475 MGD**
3. Bypass channel: ☐ Yes **[X]** No
- Metered: ☐ Yes ☐ No **[X] NA**
4. Return flows discharged upstream from meter: ☐ Yes **[X]** No
- Identify:
5. Device operating properly: **[X]** Yes ☐ No*
6. Date of last calibration: **August 2006 (at time of installation)**
7. Evidence of following problems:
- | | | |
|-----------------|-------------------------------|---------------|
| a. obstructions | <input type="checkbox"/> Yes* | [X] No |
| b. grease | <input type="checkbox"/> Yes* | [X] No |
8. General condition: **[X]** Good ☐ Fair ☐ Poor

Comments

- **The outfall is also equipped with a V-notch weir and scale that the staff used for estimating flow while the ultrasonic flow meter was out of service between January 2006 and August 2006.**

UNIT PROCESS: Effluent/Plant Outfall

1. Type Outfall ☒ Shore based ☐ Submerged
2. Type if shore based: ☐ Wingwall ☐ Headwall ☒ Rip Rap
3. Flapper valve: ☐ Yes ☒ No ☐ NA
4. Erosion of bank: ☐ Yes ☒ No ☐ NA
5. Effluent plume visible? ☐ Yes* ☒ No
6. Condition of outfall and supporting structures: ☒ Good ☐ Fair ☐ Poor*
7. Final effluent, evidence of following problems:
 - a. oil sheen ☐ Yes* ☒ No
 - b. grease ☐ Yes* ☒ No
 - c. sludge bar ☐ Yes* ☒ No
 - d. turbid effluent ☒ Yes* ☐ No
 - e. visible foam ☐ Yes* ☒ No
 - f. unusual color ☐ Yes* ☒ No

Comments:

7d. The effluent was somewhat turbid due to the effects of the rainstorm.

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: **Goose Creek WTP**

Permit No.: **VA0002666**

Receiving Stream: **Goose Creek, UT**

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	mg/L
90% Temperature (Annual) =	deg C
90% Temperature (Wet season) =	deg C
90% Maximum pH =	SU
10% Maximum pH =	SU
Tier Designation (1 or 2) =	1
Public Water Supply (PWS) Y/N? =	y
Trout Present Y/N? =	n
Early Life Stages Present Y/N? =	y

Stream Flows

1Q10 (Annual) =	0 MGD
7Q10 (Annual) =	0 MGD
30Q10 (Annual) =	0 MGD
1Q10 (Wet season) =	0 MGD
30Q10 (Wet season) =	0 MGD
30Q5 =	0 MGD
Harmonic Mean =	0 MGD
Annual Average =	0 MGD

Mixing Information

Annual - 1Q10 Mix =	0 %
- 7Q10 Mix =	0 %
- 30Q10 Mix =	0 %
Wet Season - 1Q10 Mix =	0 %
- 30Q10 Mix =	0 %

Effluent Information

Mean Hardness (as CaCO3) =	50 mg/L
90% Temp (Annual) =	deg C
90% Temp (Wet season) =	deg C
90% Maximum pH =	7.3 SU
10% Maximum pH =	SU
Discharge Flow =	1.09 MGD

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	--	--	1.2E+03	2.7E+03	--	--	1.2E+03	2.7E+03	--	--	--	--	--	--	--	--	--	--	1.2E+03	2.7E+03
Acrolein	0	--	--	3.2E+02	7.8E+02	--	--	3.2E+02	7.8E+02	--	--	--	--	--	--	--	--	--	--	3.2E+02	7.8E+02
Acrylonitrile ^C	0	--	--	5.9E-01	6.6E+00	--	--	5.9E-01	6.6E+00	--	--	--	--	--	--	--	--	--	--	5.9E-01	6.6E+00
Aldrin ^C	0	3.0E+00	--	1.3E-03	1.4E-03	3.0E+00	--	1.3E-03	1.4E-03	--	--	--	--	--	--	--	--	3.0E+00	--	1.3E-03	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	2.62E+01	5.08E+00	--	--	2.6E+01	5.1E+00	--	--	--	--	--	--	--	--	--	--	2.6E+01	5.1E+00	--	--
Ammonia-N (mg/l) (High Flow)	0	2.62E+01	5.08E+00	--	--	2.6E+01	5.1E+00	--	--	--	--	--	--	--	--	--	--	2.6E+01	5.1E+00	--	--
Anthracene	0	--	--	9.6E+03	1.1E+05	--	--	9.6E+03	1.1E+05	--	--	--	--	--	--	--	--	--	--	9.6E+03	1.1E+05
Antimony	0	--	--	1.4E+01	4.3E+03	--	--	1.4E+01	4.3E+03	--	--	--	--	--	--	--	--	--	--	1.4E+01	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	1.0E+01	--	3.4E+02	1.5E+02	1.0E+01	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	1.0E+01	--
Barium	0	--	--	2.0E+03	--	--	--	2.0E+03	--	--	--	--	--	--	--	--	--	--	--	2.0E+03	--
Benzene ^C	0	--	--	1.2E+01	7.1E+02	--	--	1.2E+01	7.1E+02	--	--	--	--	--	--	--	--	--	--	1.2E+01	7.1E+02
Benzidine ^C	0	--	--	1.2E-03	5.4E-03	--	--	1.2E-03	5.4E-03	--	--	--	--	--	--	--	--	--	--	1.2E-03	5.4E-03
Benzo (a) anthracene ^C	0	--	--	4.4E-02	4.9E-01	--	--	4.4E-02	4.9E-01	--	--	--	--	--	--	--	--	--	--	4.4E-02	4.9E-01
Benzo (b) fluoranthene ^C	0	--	--	4.4E-02	4.9E-01	--	--	4.4E-02	4.9E-01	--	--	--	--	--	--	--	--	--	--	4.4E-02	4.9E-01
Benzo (k) fluoranthene ^C	0	--	--	4.4E-02	4.9E-01	--	--	4.4E-02	4.9E-01	--	--	--	--	--	--	--	--	--	--	4.4E-02	4.9E-01
Benzo (a) pyrene ^C	0	--	--	4.4E-02	4.9E-01	--	--	4.4E-02	4.9E-01	--	--	--	--	--	--	--	--	--	--	4.4E-02	4.9E-01
Bis(2-Chloroethyl) Ether	0	--	--	3.1E-01	1.4E+01	--	--	3.1E-01	1.4E+01	--	--	--	--	--	--	--	--	--	--	3.1E-01	1.4E+01
Bis(2-Chloroisopropyl) Ether	0	--	--	1.4E+03	1.7E+05	--	--	1.4E+03	1.7E+05	--	--	--	--	--	--	--	--	--	--	1.4E+03	1.7E+05
Bromoform ^C	0	--	--	4.4E+01	3.6E+03	--	--	4.4E+01	3.6E+03	--	--	--	--	--	--	--	--	--	--	4.4E+01	3.6E+03
Butylbenzylphthalate	0	--	--	3.0E+03	5.2E+03	--	--	3.0E+03	5.2E+03	--	--	--	--	--	--	--	--	--	--	3.0E+03	5.2E+03
Cadmium	0	1.8E+00	6.6E-01	5.0E+00	--	1.8E+00	6.6E-01	5.0E+00	--	--	--	--	--	--	--	--	--	1.8E+00	6.6E-01	5.0E+00	--
Carbon Tetrachloride ^C	0	--	--	2.5E+00	4.4E+01	--	--	2.5E+00	4.4E+01	--	--	--	--	--	--	--	--	--	--	2.5E+00	4.4E+01
Chlordane ^C	0	2.4E+00	4.3E-03	2.1E-02	2.2E-02	2.4E+00	4.3E-03	2.1E-02	2.2E-02	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	2.1E-02	2.2E-02
Chloride	0	8.6E+05	2.3E+05	2.5E+05	--	8.6E+05	2.3E+05	2.5E+05	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	2.5E+05	--
TRC	0	1.9E+01	1.1E+01	--	--	1.9E+01	1.1E+01	--	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	--	--
Chlorobenzene	0	--	--	6.8E+02	2.1E+04	--	--	6.8E+02	2.1E+04	--	--	--	--	--	--	--	--	--	--	6.8E+02	2.1E+04

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane ^C	0	--	--	4.1E+00	3.4E+02	--	--	4.1E+00	3.4E+02	--	--	--	--	--	--	--	--	--	--	4.1E+00	3.4E+02
Chloroform ^C	0	--	--	3.5E+02	2.9E+04	--	--	3.5E+02	2.9E+04	--	--	--	--	--	--	--	--	--	--	3.5E+02	2.9E+04
2-Chloronaphthalene	0	--	--	1.7E+03	4.3E+03	--	--	1.7E+03	4.3E+03	--	--	--	--	--	--	--	--	--	--	1.7E+03	4.3E+03
2-Chlorophenol	0	--	--	1.2E+02	4.0E+02	--	--	1.2E+02	4.0E+02	--	--	--	--	--	--	--	--	--	--	1.2E+02	4.0E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	--	--	8.3E-02	4.1E-02	--	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	--	--
Chromium III	0	3.2E+02	4.2E+01	--	--	3.2E+02	4.2E+01	--	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	--	--
Chromium VI	0	1.6E+01	1.1E+01	--	--	1.6E+01	1.1E+01	--	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	--	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	1.0E+02	--	--	--	--	--	--	--	--	--	--	--	1.0E+02	--
Chrysene ^C	0	--	--	4.4E-02	4.9E-01	--	--	4.4E-02	4.9E-01	--	--	--	--	--	--	--	--	--	--	4.4E-02	4.9E-01
Copper	0	7.0E+00	5.0E+00	1.3E+03	--	7.0E+00	5.0E+00	1.3E+03	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	1.3E+03	--
Cyanide	0	2.2E+01	5.2E+00	7.0E+02	2.2E+05	2.2E+01	5.2E+00	7.0E+02	2.2E+05	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	7.0E+02	2.2E+05
DDD ^C	0	--	--	8.3E-03	8.4E-03	--	--	8.3E-03	8.4E-03	--	--	--	--	--	--	--	--	--	--	8.3E-03	8.4E-03
DDE ^C	0	--	--	5.9E-03	5.9E-03	--	--	5.9E-03	5.9E-03	--	--	--	--	--	--	--	--	--	--	5.9E-03	5.9E-03
DDT ^C	0	1.1E+00	1.0E-03	5.9E-03	5.9E-03	1.1E+00	1.0E-03	5.9E-03	5.9E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	5.9E-03	5.9E-03
Demeton	0	--	1.0E-01	--	--	--	1.0E-01	--	--	--	--	--	--	--	--	--	--	--	1.0E-01	--	--
Dibenz(a,h)anthracene ^C	0	--	--	4.4E-02	4.9E-01	--	--	4.4E-02	4.9E-01	--	--	--	--	--	--	--	--	--	--	4.4E-02	4.9E-01
Dibutyl phthalate	0	--	--	2.7E+03	1.2E+04	--	--	2.7E+03	1.2E+04	--	--	--	--	--	--	--	--	--	--	2.7E+03	1.2E+04
Dichloromethane (Methylene Chloride) ^C	0	--	--	4.7E+01	1.6E+04	--	--	4.7E+01	1.6E+04	--	--	--	--	--	--	--	--	--	--	4.7E+01	1.6E+04
1,2-Dichlorobenzene	0	--	--	2.7E+03	1.7E+04	--	--	2.7E+03	1.7E+04	--	--	--	--	--	--	--	--	--	--	2.7E+03	1.7E+04
1,3-Dichlorobenzene	0	--	--	4.0E+02	2.6E+03	--	--	4.0E+02	2.6E+03	--	--	--	--	--	--	--	--	--	--	4.0E+02	2.6E+03
1,4-Dichlorobenzene	0	--	--	4.0E+02	2.6E+03	--	--	4.0E+02	2.6E+03	--	--	--	--	--	--	--	--	--	--	4.0E+02	2.6E+03
3,3-Dichlorobenzidine ^C	0	--	--	4.0E-01	7.7E-01	--	--	4.0E-01	7.7E-01	--	--	--	--	--	--	--	--	--	--	4.0E-01	7.7E-01
Dichlorobromomethane ^C	0	--	--	5.6E+00	4.6E+02	--	--	5.6E+00	4.6E+02	--	--	--	--	--	--	--	--	--	--	5.6E+00	4.6E+02
1,2-Dichloroethane ^C	0	--	--	3.8E+00	9.9E+02	--	--	3.8E+00	9.9E+02	--	--	--	--	--	--	--	--	--	--	3.8E+00	9.9E+02
1,1-Dichloroethylene	0	--	--	3.1E+02	1.7E+04	--	--	3.1E+02	1.7E+04	--	--	--	--	--	--	--	--	--	--	3.1E+02	1.7E+04
1,2-trans-dichloroethylene	0	--	--	7.0E+02	1.4E+05	--	--	7.0E+02	1.4E+05	--	--	--	--	--	--	--	--	--	--	7.0E+02	1.4E+05
2,4-Dichlorophenol	0	--	--	9.3E+01	7.9E+02	--	--	9.3E+01	7.9E+02	--	--	--	--	--	--	--	--	--	--	9.3E+01	7.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	1.0E+02	--	--	--	1.0E+02	--	--	--	--	--	--	--	--	--	--	--	1.0E+02	--
1,2-Dichloropropane ^C	0	--	--	5.2E+00	3.9E+02	--	--	5.2E+00	3.9E+02	--	--	--	--	--	--	--	--	--	--	5.2E+00	3.9E+02
1,3-Dichloropropene	0	--	--	1.0E+01	1.7E+03	--	--	1.0E+01	1.7E+03	--	--	--	--	--	--	--	--	--	--	1.0E+01	1.7E+03
Dieldrin ^C	0	2.4E-01	5.6E-02	1.4E-03	1.4E-03	2.4E-01	5.6E-02	1.4E-03	1.4E-03	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	1.4E-03	1.4E-03
Diethyl Phthalate	0	--	--	2.3E+04	1.2E+05	--	--	2.3E+04	1.2E+05	--	--	--	--	--	--	--	--	--	--	2.3E+04	1.2E+05
Di-2-Ethylhexyl Phthalate ^C	0	--	--	1.8E+01	5.9E+01	--	--	1.8E+01	5.9E+01	--	--	--	--	--	--	--	--	--	--	1.8E+01	5.9E+01
2,4-Dimethylphenol	0	--	--	5.4E+02	2.3E+03	--	--	5.4E+02	2.3E+03	--	--	--	--	--	--	--	--	--	--	5.4E+02	2.3E+03
Dimethyl Phthalate	0	--	--	3.1E+05	2.9E+06	--	--	3.1E+05	2.9E+06	--	--	--	--	--	--	--	--	--	--	3.1E+05	2.9E+06
Di-n-Butyl Phthalate	0	--	--	2.7E+03	1.2E+04	--	--	2.7E+03	1.2E+04	--	--	--	--	--	--	--	--	--	--	2.7E+03	1.2E+04
2,4 Dinitrophenol	0	--	--	7.0E+01	1.4E+04	--	--	7.0E+01	1.4E+04	--	--	--	--	--	--	--	--	--	--	7.0E+01	1.4E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	1.3E+01	7.65E+02	--	--	1.3E+01	7.7E+02	--	--	--	--	--	--	--	--	--	--	1.3E+01	7.7E+02
2,4-Dinitrotoluene ^C	0	--	--	1.1E+00	9.1E+01	--	--	1.1E+00	9.1E+01	--	--	--	--	--	--	--	--	--	--	1.1E+00	9.1E+01
Dioxin (2,3,7,8- tetrachlorodibenzo-p- dioxin) (ppq)	0	--	--	1.2E-06	1.2E-06	--	--	1.2E-06	1.2E-06	--	--	--	--	--	--	--	--	--	--	1.2E-06	1.2E-06
1,2-Diphenylhydrazine ^C	0	--	--	4.0E-01	5.4E+00	--	--	4.0E-01	5.4E+00	--	--	--	--	--	--	--	--	--	--	4.0E-01	5.4E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	1.1E+02	2.4E+02	2.2E-01	5.6E-02	1.1E+02	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	1.1E+02	2.4E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	1.1E+02	2.4E+02	2.2E-01	5.6E-02	1.1E+02	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	1.1E+02	2.4E+02
Endosulfan Sulfate	0	--	--	1.1E+02	2.4E+02	--	--	1.1E+02	2.4E+02	--	--	--	--	--	--	--	--	--	--	1.1E+02	2.4E+02
Endrin	0	8.6E-02	3.6E-02	7.6E-01	8.1E-01	8.6E-02	3.6E-02	7.6E-01	8.1E-01	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	7.6E-01	8.1E-01
Endrin Aldehyde	0	--	--	7.6E-01	8.1E-01	--	--	7.6E-01	8.1E-01	--	--	--	--	--	--	--	--	--	--	7.6E-01	8.1E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	3.1E+03	2.9E+04	--	--	3.1E+03	2.9E+04	--	--	--	--	--	--	--	--	--	--	3.1E+03	2.9E+04
Fluoranthene	0	--	--	3.0E+02	3.7E+02	--	--	3.0E+02	3.7E+02	--	--	--	--	--	--	--	--	--	--	3.0E+02	3.7E+02
Fluorene	0	--	--	1.3E+03	1.4E+04	--	--	1.3E+03	1.4E+04	--	--	--	--	--	--	--	--	--	--	1.3E+03	1.4E+04
Foaming Agents	0	--	--	5.0E+02	--	--	--	5.0E+02	--	--	--	--	--	--	--	--	--	--	--	5.0E+02	--
Guthion	0	--	1.0E-02	--	--	--	1.0E-02	--	--	--	--	--	--	--	--	--	--	--	1.0E-02	--	--
Heptachlor ^C	0	5.2E-01	3.8E-03	2.1E-03	2.1E-03	5.2E-01	3.8E-03	2.1E-03	2.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	2.1E-03	2.1E-03
Heptachlor Epoxide ^C	0	5.2E-01	3.8E-03	1.0E-03	1.1E-03	5.2E-01	3.8E-03	1.0E-03	1.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	1.0E-03	1.1E-03
Hexachlorobenzene ^C	0	--	--	7.5E-03	7.7E-03	--	--	7.5E-03	7.7E-03	--	--	--	--	--	--	--	--	--	--	7.5E-03	7.7E-03
Hexachlorobutadiene ^C	0	--	--	4.4E+00	5.0E+02	--	--	4.4E+00	5.0E+02	--	--	--	--	--	--	--	--	--	--	4.4E+00	5.0E+02
Hexachlorocyclohexane	0	--	--	3.9E-02	1.3E-01	--	--	3.9E-02	1.3E-01	--	--	--	--	--	--	--	--	--	--	3.9E-02	1.3E-01
Alpha-BHC ^C																					
Hexachlorocyclohexane	0	--	--	1.4E-01	4.6E-01	--	--	1.4E-01	4.6E-01	--	--	--	--	--	--	--	--	--	--	1.4E-01	4.6E-01
Beta-BHC ^C																					
Hexachlorocyclohexane	0	9.5E-01	--	1.9E-01	6.3E-01	9.5E-01	--	1.9E-01	6.3E-01	--	--	--	--	--	--	--	--	9.5E-01	--	1.9E-01	6.3E-01
Gamma-BHC ^C (Lindane)																					
Hexachlorocyclopentadiene	0	--	--	2.4E+02	1.7E+04	--	--	2.4E+02	1.7E+04	--	--	--	--	--	--	--	--	--	--	2.4E+02	1.7E+04
Hexachloroethane ^C	0	--	--	1.9E+01	8.9E+01	--	--	1.9E+01	8.9E+01	--	--	--	--	--	--	--	--	--	--	1.9E+01	8.9E+01
Hydrogen Sulfide	0	--	2.0E+00	--	--	--	2.0E+00	--	--	--	--	--	--	--	--	--	--	--	2.0E+00	--	--
Indeno (1,2,3-cd) pyrene ^C	0	--	--	4.4E-02	4.9E-01	--	--	4.4E-02	4.9E-01	--	--	--	--	--	--	--	--	--	--	4.4E-02	4.9E-01
Iron	0	--	--	3.0E+02	--	--	--	3.0E+02	--	--	--	--	--	--	--	--	--	--	--	3.0E+02	--
Isophorone ^C	0	--	--	3.6E+02	2.6E+04	--	--	3.6E+02	2.6E+04	--	--	--	--	--	--	--	--	--	--	3.6E+02	2.6E+04
Kepone	0	--	0.0E+00	--	--	--	0.0E+00	--	--	--	--	--	--	--	--	--	--	--	0.0E+00	--	--
Lead	0	4.9E+01	5.6E+00	1.5E+01	--	4.9E+01	5.6E+00	1.5E+01	--	--	--	--	--	--	--	--	--	4.9E+01	5.6E+00	1.5E+01	--
Malathion	0	--	1.0E-01	--	--	--	1.0E-01	--	--	--	--	--	--	--	--	--	--	--	1.0E-01	--	--
Manganese	0	--	--	5.0E+01	--	--	--	5.0E+01	--	--	--	--	--	--	--	--	--	--	--	5.0E+01	--
Mercury	0	1.4E+00	7.7E-01	5.0E-02	5.1E-02	1.4E+00	7.7E-01	5.0E-02	5.1E-02	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	5.0E-02	5.1E-02
Methyl Bromide	0	--	--	4.8E+01	4.0E+03	--	--	4.8E+01	4.0E+03	--	--	--	--	--	--	--	--	--	--	4.8E+01	4.0E+03
Methoxychlor	0	--	3.0E-02	1.0E+02	--	--	3.0E-02	1.0E+02	--	--	--	--	--	--	--	--	--	--	3.0E-02	1.0E+02	--
Mirex	0	--	0.0E+00	--	--	--	0.0E+00	--	--	--	--	--	--	--	--	--	--	--	0.0E+00	--	--
Monochlorobenzene	0	--	--	6.8E+02	2.1E+04	--	--	6.8E+02	2.1E+04	--	--	--	--	--	--	--	--	--	--	6.8E+02	2.1E+04
Nickel	0	1.0E+02	1.1E+01	6.1E+02	4.6E+03	1.0E+02	1.1E+01	6.1E+02	4.6E+03	--	--	--	--	--	--	--	--	1.0E+02	1.1E+01	6.1E+02	4.6E+03
Nitrate (as N)	0	--	--	1.0E+04	--	--	--	1.0E+04	--	--	--	--	--	--	--	--	--	--	--	1.0E+04	--
Nitrobenzene	0	--	--	1.7E+01	1.9E+03	--	--	1.7E+01	1.9E+03	--	--	--	--	--	--	--	--	--	--	1.7E+01	1.9E+03
N-Nitrosodimethylamine ^C	0	--	--	6.9E-03	8.1E+01	--	--	6.9E-03	8.1E+01	--	--	--	--	--	--	--	--	--	--	6.9E-03	8.1E+01
N-Nitrosodiphenylamine ^C	0	--	--	5.0E+01	1.6E+02	--	--	5.0E+01	1.6E+02	--	--	--	--	--	--	--	--	--	--	5.0E+01	1.6E+02
N-Nitrosodi-n-propylamine ^C	0	--	--	5.0E-02	1.4E+01	--	--	5.0E-02	1.4E+01	--	--	--	--	--	--	--	--	--	--	5.0E-02	1.4E+01
Parathion	0	6.5E-02	1.3E-02	--	--	6.5E-02	1.3E-02	--	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	--	--
PCB-1016	0	--	1.4E-02	--	--	--	1.4E-02	--	--	--	--	--	--	--	--	--	--	--	1.4E-02	--	--
PCB-1221	0	--	1.4E-02	--	--	--	1.4E-02	--	--	--	--	--	--	--	--	--	--	--	1.4E-02	--	--
PCB-1232	0	--	1.4E-02	--	--	--	1.4E-02	--	--	--	--	--	--	--	--	--	--	--	1.4E-02	--	--
PCB-1242	0	--	1.4E-02	--	--	--	1.4E-02	--	--	--	--	--	--	--	--	--	--	--	1.4E-02	--	--
PCB-1248	0	--	1.4E-02	--	--	--	1.4E-02	--	--	--	--	--	--	--	--	--	--	--	1.4E-02	--	--
PCB-1254	0	--	1.4E-02	--	--	--	1.4E-02	--	--	--	--	--	--	--	--	--	--	--	1.4E-02	--	--
PCB-1260	0	--	1.4E-02	--	--	--	1.4E-02	--	--	--	--	--	--	--	--	--	--	--	1.4E-02	--	--
PCB Total ^C	0	--	--	1.7E-03	1.7E-03	--	--	1.7E-03	1.7E-03	--	--	--	--	--	--	--	--	--	--	1.7E-03	1.7E-03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol ^C	0	7.7E-03	5.9E-03	2.8E+00	8.2E+01	7.7E-03	5.9E-03	2.8E+00	8.2E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	2.8E+00	8.2E+01
Phenol	0	--	--	2.1E+04	4.6E+06	--	--	2.1E+04	4.6E+06	--	--	--	--	--	--	--	--	--	--	2.1E+04	4.6E+06
Pyrene	0	--	--	9.6E+02	1.1E+04	--	--	9.6E+02	1.1E+04	--	--	--	--	--	--	--	--	--	--	9.6E+02	1.1E+04
Radionuclides (pCi/l except Beta/Photon)	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gross Alpha Activity	0	--	--	1.5E+01	1.5E+01	--	--	1.5E+01	1.5E+01	--	--	--	--	--	--	--	--	--	--	1.5E+01	1.5E+01
Beta and Photon Activity (mrem/yr)	0	--	--	4.0E+00	4.0E+00	--	--	4.0E+00	4.0E+00	--	--	--	--	--	--	--	--	--	--	4.0E+00	4.0E+00
Strontium-90	0	--	--	8.0E+00	8.0E+00	--	--	8.0E+00	8.0E+00	--	--	--	--	--	--	--	--	--	--	8.0E+00	8.0E+00
Tritium	0	--	--	2.0E+04	2.0E+04	--	--	2.0E+04	2.0E+04	--	--	--	--	--	--	--	--	--	--	2.0E+04	2.0E+04
Selenium	0	2.0E+01	5.0E+00	1.7E+02	1.1E+04	2.0E+01	5.0E+00	1.7E+02	1.1E+04	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	1.7E+02	1.1E+04
Silver	0	1.0E+00	--	--	--	1.0E+00	--	--	--	--	--	--	--	--	--	--	--	1.0E+00	--	--	--
Sulfate	0	--	--	2.5E+05	--	--	--	2.5E+05	--	--	--	--	--	--	--	--	--	--	--	2.5E+05	--
1,1,2,2-Tetrachloroethane ^C	0	--	--	1.7E+00	1.1E+02	--	--	1.7E+00	1.1E+02	--	--	--	--	--	--	--	--	--	--	1.7E+00	1.1E+02
Tetrachloroethylene ^C	0	--	--	8.0E+00	8.9E+01	--	--	8.0E+00	8.9E+01	--	--	--	--	--	--	--	--	--	--	8.0E+00	8.9E+01
Thallium	0	--	--	1.7E+00	6.3E+00	--	--	1.7E+00	6.3E+00	--	--	--	--	--	--	--	--	--	--	1.7E+00	6.3E+00
Toluene	0	--	--	6.8E+03	2.0E+05	--	--	6.8E+03	2.0E+05	--	--	--	--	--	--	--	--	--	--	6.8E+03	2.0E+05
Total dissolved solids	0	--	--	5.0E+05	--	--	--	5.0E+05	--	--	--	--	--	--	--	--	--	--	--	5.0E+05	--
Toxaphene ^C	0	7.3E-01	2.0E-04	7.3E-03	7.5E-03	7.3E-01	2.0E-04	7.3E-03	7.5E-03	--	--	--	--	--	--	--	--	7.3E-01	2.0E-04	7.3E-03	7.5E-03
Tributyltin	0	4.6E-01	6.3E-02	--	--	4.6E-01	6.3E-02	--	--	--	--	--	--	--	--	--	--	4.6E-01	6.3E-02	--	--
1,2,4-Trichlorobenzene	0	--	--	2.6E+02	9.4E+02	--	--	2.6E+02	9.4E+02	--	--	--	--	--	--	--	--	--	--	2.6E+02	9.4E+02
1,1,2-Trichloroethane ^C	0	--	--	6.0E+00	4.2E+02	--	--	6.0E+00	4.2E+02	--	--	--	--	--	--	--	--	--	--	6.0E+00	4.2E+02
Trichloroethylene ^C	0	--	--	2.7E+01	8.1E+02	--	--	2.7E+01	8.1E+02	--	--	--	--	--	--	--	--	--	--	2.7E+01	8.1E+02
2,4,6-Trichlorophenol ^C	0	--	--	2.1E+01	6.5E+01	--	--	2.1E+01	6.5E+01	--	--	--	--	--	--	--	--	--	--	2.1E+01	6.5E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	5.0E+01	--	--	--	5.0E+01	--	--	--	--	--	--	--	--	--	--	--	5.0E+01	--
Vinyl Chloride ^C	0	--	--	2.3E-01	6.1E+01	--	--	2.3E-01	6.1E+01	--	--	--	--	--	--	--	--	--	--	2.3E-01	6.1E+01
Zinc	0	6.5E+01	6.6E+01	9.1E+03	6.9E+04	6.5E+01	6.6E+01	9.1E+03	6.9E+04	--	--	--	--	--	--	--	--	6.5E+01	6.6E+01	9.1E+03	6.9E+04

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	1.4E+01
Arsenic	1.0E+01
Barium	2.0E+03
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	3.0E+02
Lead	3.4E+00
Manganese	5.0E+01
Mercury	5.0E-02
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

3/4/2009 10:05:07 AM

Facility = Goose Creek Water Treatment Plant

Chemical = Chlorine

Chronic averaging period = 4

WLAa = 0.019

WLAc = 0.011

Q.L. = 0.2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = .2

Variance = .0144

C.V. = 0.6

97th percentile daily values = .486683

97th percentile 4 day average = .332758

97th percentile 30 day average = .241210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 1.60883226245855E-02

Average Weekly limit = 1.60883226245855E-02

Average Monthly Limit = 1.60883226245855E-02

The data are:

0.2

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

Northern Regional Office

13901 Crown Court

Woodbridge, VA 22193

(703) 583-3800

SUBJECT: TOXICS MANAGEMENT PROGRAM DATA REVIEW
Goose Creek Water Treatment Plant (VA0002666)
REVIEWER: Douglas Frasier
DATE: 18 November 2008
COPIES: OWPP-TMP; TMP file

PREVIOUS REVIEW: 18 September 2007

DATA REVIEWED:

This review covers the fifth annual acute toxicity tests conducted in September 2008 for Outfall 001 since the permit was reissued in August 2004. The tests were performed with *C. dubia* and *P. promelas* using composite samples of the final effluent collected from the outfall.

DISCUSSION:

The results of these acute toxicity tests, along with the results of previous toxicity tests performed on effluent samples collected from Outfall 001, are summarized in Table 1.

The acute toxicity of the effluent was determined with a 48-hour static acute toxicity test using *C. dubia* and *P. promelas* as the test species. The acute test yielded for both species a No Observed Adverse Effect Concentration (NOAEC) of 100%, equal to the instream waste concentration (IWC) of 100%; passing the acute toxicity criterion.

The test results indicate that the effluent samples exhibited no acute toxicity to the test organisms.

CONCLUSION:

The fifth annual acute toxicity tests are valid and fulfill the biomonitoring requirement of the permit.

FACILITY INFORMATION

FACILITY: Goose Creek Water Treatment Plant

LOCATION: 20521 Belmont Ridge Road
Ashburn, Loudoun County

VPDES#: VA0002666

TYPE OF FACILITY: Industrial, minor

REGION/PERMIT WRITER: NRO / Douglas Frasier

PERMIT EFFECTIVE DATE: 9 August 2004

SIC CODE/DESCRIPTION: 4941 / water treatment plant

OUTFALL/FLOW (MGD): Filter backwash, miscellaneous interior drain wastewater and storm water runoff / 0.35 MGD

TREATMENT: The treatment facilities consist of a settling lagoon to remove suspended solids. Accumulated solids are transferred to two sludge drying/storage lagoons.

RECEIVING STREAM/7Q10/IWC: Goose Creek, UT; Potomac River Basin and Subbasin; Section 9a; Class III; Special Standards: PWS; 7Q10: 0.0 MGD / IWC: 100%

TMP EFFECTIVE DATE: 23 July 1994

TMP REQUIREMENTS: Annual acute toxicity tests using 8-hour composite samples of final effluent from Outfall 001. The acute tests shall be 48-hour static tests using *Ceriodaphnia dubia* and *Pimephales promelas*.

The tests are to determine NOAEC. NOAEC shall be no less than IWC of 100% effluent in at least 75% of the tests conducted.

BIOLOGICAL TESTING PERFORMED BY: Coastal Bioanalysts Inc.

BIOMONITORING RESULTS
Goose Creek Water Treatment Plant (VA0002666)

Table 1
Summary of Toxicity Test Results for Outfall 001

TEST DATE	TEST TYPE/ORGANISM	IC ₂₅ (%)	48-h LC ₅₀ (%)	NOEC (%)	NOAEC (%)	% SURV	REMARKS
10/20/94	Acute <i>C. dubia</i>		>100			100	1st quarterly
10/20/94	Acute <i>P. promelas</i>		>100			100	
10/18/94	Chronic <i>C. dubia</i>			100 SR		100	
10/18/94	Chronic <i>P. promelas</i>			100 SG		100	
01/26/95	Acute <i>C. dubia</i>		20.3			0	2nd quarterly
01/26/95	Acute <i>P. promelas</i>		>100			95	
01/24/95	Chronic <i>C. dubia</i>			100 SR		100	
01/24/95	Chronic <i>P. promelas</i>			100 SG		85	
05/18/95	Acute <i>C. dubia</i>		>100			95	3rd quarterly
05/18/95	Acute <i>P. promelas</i>		>100			100	
05/16/95	Chronic <i>C. dubia</i>			100 SR		100	
05/16/95	Chronic <i>P. promelas</i>			100 SG		55	
07/27/95	Acute <i>C. dubia</i>		>100			100	4th quarterly
07/27/95	Acute <i>P. promelas</i>		>100			100	
07/25/95	Chronic <i>C. dubia</i>			100 SR		100	
07/25/95	Chronic <i>P. promelas</i>			100 SG		98	
11/02/95	Acute <i>C. dubia</i>		73.8			55	1st annual
11/02/95	Acute <i>P. promelas</i>		>100			100	
10/31/95	Chronic <i>C. dubia</i>			100 SR		100	
10/31/95	Chronic <i>P. promelas</i>			100 SG		80	
10/08/96	Acute <i>C. dubia</i>		<6.3			95	2nd annual
10/08/96	Acute <i>P. promelas</i>		>100			95	
10/03/96	Chronic <i>C. dubia</i>			100 SR		90	
10/03/96	Chronic <i>P. promelas</i>			6.3 SG		93	
01/23/97	Acute <i>C. dubia</i>		>100			100	retest
01/21/97	Chronic <i>P. promelas</i>			100 SG		95	retest
01/29/98	Acute <i>C. dubia</i>		>100			100	3rd annual
01/29/98	Acute <i>P. promelas</i>		>100			100	
01/27/98	Chronic <i>C. dubia</i>			100 S 50 R		70	
01/27/98	Chronic <i>P. promelas</i>			100 SG		98	
06/23/98	Chronic <i>C. dubia</i>			100 SR		100	retest
10/29/98	Acute <i>C. dubia</i>		>100			70	4th annual
10/27/98	Chronic <i>P. promelas</i>			51.8 SG		25	
11/19/98	Chronic <i>P. promelas</i>			50 SG		75	retest
02/09/99	Chronic <i>P. promelas</i>			100 SG		95	1st quarterly
05/18/99	Chronic <i>P. promelas</i>			100 SG		98	2nd quarterly
Permit Reissued August 9, 1999							
8/26/99	Acute <i>C. dubia</i>		>100			100	1 st quarterly
8/26/99	Acute <i>P. promelas</i>		>100			90	
8/24/99	Chronic <i>C. dubia</i>			100 SR		100	
8/24/99	Chronic <i>P. promelas</i>			100 SG		88	
10/21/99	Acute <i>C. dubia</i>		>100			100	2 nd quarterly
10/21/99	Acute <i>P. promelas</i>		>100			100	

TEST DATE	TEST TYPE/ORGANISM	IC ₂₅ (%)	48-h LC ₅₀ (%)	NOEC (%)	NOAEC (%)	% SURV	REMARKS
10/19/99	Chronic <i>C. dubia</i>			100 SR		100	
10/19/99	Chronic <i>P. promelas</i>			100 SG		98	
3/16/00	Acute <i>C. dubia</i>		>100			100	3 rd quarterly
3/16/00	Acute <i>P. promelas</i>		>100			100	3rd quarterly
3/14/00	Chronic <i>C. dubia</i>			100 SR		100	
3/14/00	Chronic <i>P. promelas</i>			6.25 SG		30	
5/18/00	Acute <i>C. dubia</i>		>100			95	4th quarterly
5/18/00	Acute <i>P. promelas</i>		>100			100	
5/16/00	Chronic <i>C. dubia</i>			100 SR		100	
5/16/00	Chronic <i>P. promelas</i>			100 SG		73	
8/24/00	Acute <i>C. dubia</i>		>100			100	1st annual
8/24/00	Chronic <i>P. promelas</i>			100 SG		93	
8/02/01	Acute <i>C. dubia</i>		>100			100	2nd annual
7/31/01	Chronic <i>P. promelas</i>	>100	>100	100 SG		100	
8/15/02	Acute <i>C. dubia</i>		>100			100	3rd annual
8/13/02	Chronic <i>P. promelas</i>	>100	>100	100 SG		93	
8/28/03	Acute <i>C. dubia</i>		>100			100	4th annual
8/26/03	Chronic <i>P. promelas</i>	>100	>100	100 SG		85	
Permit reissued 9 August 2004							
11/02/04	Acute <i>C. dubia</i>		>100		100	100	1 st annual
11/02/04	Acute <i>P. promelas</i>		>100		100	100	
07/01/05	Acute <i>C. dubia</i>		>100		100	100	2 nd annual
07/01/05	Acute <i>P. promelas</i>		>100		100	100	
05/11/06	Acute <i>C. dubia</i>		>100		100	100	3 rd annual
05/11/06	Acute <i>P. promelas</i>		>100		100	100	
05/09/07	Acute <i>C. dubia</i>		>100		100	100	4 th annual
05/09/07	Acute <i>P. promelas</i>		>100		100	100	
09/24/08	Acute <i>C. dubia</i>		>100		100	100	5 th annual
09/24/08	Acute <i>P. promelas</i>		>100		100	100	

FOOTNOTES:

A **bold** faced LC₅₀ or NOEC value indicates that the test failed the criteria.

ABBREVIATIONS:

S - Survival; R - Reproduction; G - Growth

% SURV - Percent survival in 100% effluent

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated industrial wastewater into a water body in Loudoun County, Virginia.

PUBLIC COMMENT PERIOD: June 25, 2009 to 5:00 p.m. on July 24, 2009

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Industrial wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: City of Fairfax
10455 Armstrong Street, Fairfax, VA 22030
VA0002666

NAME AND ADDRESS OF FACILITY: Goose Creek Water Treatment Plant
20521 Belmont Ridge Road, Ashburn, VA 20147

PROJECT DESCRIPTION: The City of Fairfax has applied for a reissuance of a permit for the public Goose Creek Water Treatment Plant. The applicant proposes to release treated industrial wastewaters at a maximum rate of 1.09 million gallons per day into a water body. The industrial sludge from the treatment process will be disposed via land application. The facility proposes to release the treated industrial wastewaters in the Goose Creek, UT, in Loudoun County in the Potomac watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, TSS and Chlorine.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment.

Name: Douglas Frasier

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3873 E-mail: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821

Revised 2/2003

**State “Transmittal Checklist” to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Goose Creek Water Treatment Plant
NPDES Permit Number:	VA0002666
Permit Writer Name:	Douglas Frasier
Date:	26 March 2009

Major ☐

Minor ☒

Industrial ☒

Municipal ☐

I.A. Draft Permit Package Submittal Includes:

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?	X		
9. Permit Rating Sheet for new or modified industrial facilities?	X		

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?			X
a. Has a TMDL been developed and approved by EPA for the impaired water?			X
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water? (DOWNSTREAM)	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

LB. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals (To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)

	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	X		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	X		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a “reasonable measure of ACTUAL production” for the facility (not design)?			X
5. Does the permit contain “tiered” limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?		X	
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			X

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the fact sheet indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

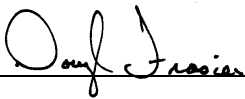
II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State’s standard practices?	X		

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		X	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			X
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Douglas Frasier</u>
Title	<u>Environmental Specialist II Senior</u>
Signature	<u></u>
Date	<u>26 March 2009</u>